

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants: Volkert A. Zeijlemaker Examiner: Ruth S. Smith

Serial No. 10/673,778 Group Art: 3737

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Conf. No.: 2478

Title: CONTROLLING BLANKING DURING MAGNETIC RESONANCE
IMAGING

REPLY BRIEF

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Commissioner of Patents
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This is a Reply Brief in response to the Examiner's Answer dated February 18, 2011. Please charge any fees due to Deposit Account 13-2546.

STATUS OF CLAIMS

The status of the claims has not changed since filing the Appeal Brief dated November 29, 2010. Claims 1, 3–5, 7–12, 15, 17–21, 23–33 and 39–45, which are the subject of this Appeal, are pending. Claims 2, 6, 13, 14, 16, 22 and 34–38 are cancelled.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal remain unchanged from filing the Appeal Brief dated November 29, 2010. Claims 1, 3–5, 7–12, 15, 17–21, 23–33 and 39–45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Foster et al. (U.S. 6,925,328, hereinafter “Foster”) in view of Weisner et al. (U.S. 7,024,249, hereinafter “Weisner”).

ARGUMENT

Appellant addresses the arguments set forth in the Response to Arguments section of the Examiner's Answer. These arguments directly address the statements of the Examiner in the Response to Arguments section of the Examiner's Answer and are meant to supplement the arguments in Appellant's Appeal Brief filed on November 29, 2010.

Claims 1, 3–5, 7–12, 15, 17–21, 23–30, and 41

In response to the Appellant's argument that if the trigger voltage is a control signal then the IMD of Foster does not blank components of the IMD responsive to the control signal, the Examiner indicated that:

“the Appellant's interpretation of the claim language is not understood. The trigger voltage is used to deactivate the IMD. The trigger voltage causes the parallel resonant circuit to be formed which functions as an open switch at resonant frequencies of the circuit. This is considered to provide a means for blanking the IMD in response to a control signal because the IMD is eventually deactivated as a result of the control signal.”

Appellant's claim 1 recites “responsive to receipt of the control signal by the IMD, **blanking** one or more components of the IMD for a time period including at least the delivery of the electromagnetic radiation burst to the patient.” As defined in Appellant's specification in paragraph [0028], “blanking” refers to a technique in which the functionality of one or more components of the IMD is temporarily disabled. Conventionally, blanking is used in cardiac pacemakers for a brief blanking period following application of a stimulus. For example, some conventional pacemakers enter a blanking period of approximately 20-50 milliseconds following application of an electrical stimulus to the heart during which sense amplifiers are disabled and no signal is sensed.

If the trigger voltage is considered to be the control signal (as suggested by the Examiner), the IMD of Foster does not initiate **blanking** one or more components of the IMD responsive to receipt of the control signal, as recited in Appellant's claim 1. As described with reference to FIG. 5 of Foster, the trigger voltage simply causes a parallel-

resonant circuit to be formed. *Foster, col. 10, lines 15–25*. The parallel resonant circuit does not blank, e.g., disable the function of, the components of the IMD. For example, signals at frequencies away from the resonant frequency of the parallel-resonant circuit are not passed by the circuit and may still be received by the components of the IMD. Instead, the parallel resonant circuit functions as a filter for signals at the resonant frequency of the parallel resonant circuit. This is different than blanking the one or more components responsive to receipt of the control signal.

Claims 31–33, 39 and 40

In the Response to Argument section of the Examiner’s Answer, the Examiner indicated that “with respect to the Appellant’s arguments directed to claims 31-33, 39, 40, it is respectfully submitted that the modified programmer of Foster would provide a signal used to obtain the MR signals which would be the first signal and a control signal to blank components of the IMD which would be the second signal.”

As described in the Appeal Brief, the Examiner grouped the rejection of claim 31 with independent claims 1, 11 and 23 in the final Office Action. However, Appellant’s independent claim 31 includes a number of features not recited in Appellant’s independent claims 1, 11 and 23. For example, the Examiner has failed to provide a reference or references that disclose a system comprising a programmer device defining timing for application of a magnetic resonance imaging (MRI) electromagnetic radiation burst and generating first and second signals indicative thereof, as recited in Appellant’s claim 31.

Appellant contends that the Examiner has still failed to provide a prima facie rejection for obviousness. In the Examiner’s Answer, the Examiner refers to the “modified programmer of Foster.” However, the Examiner has not provided clear articulation of the reason(s) why the claimed invention would have been obvious. There is no discussion as to why one of ordinary skill in the art would have modified Foster to include a programmer and then modified the programmer to define timing for application of a magnetic resonance imaging (MRI) electromagnetic radiation burst and generating first and second signals indicative thereof, as recited in claim 31. Rejections on

obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). There is no such articulated reasoning to this point in the prosecution.

Claims 42–44

In the Response to Argument section of the Examiner's Answer, the Examiner indicated that:

"With respect to the Appellant's arguments directed to claims 42-44 and 45, it is respectfully submitted that in order to ensure that the blanking is activated during the EM bursts and taking into consideration possible system delays, it would have been obvious to one skilled in the art to have slightly enlarged the time period for blanking to ensure proper results. The Appellant fails to provide any evidence to show that it would be impossible to activate the parallel circuit to blank the IMD prior to the actual delivery of the EM burst to the patient. It should also be noted that given inherent delays provided by system/circuit components, it appears that given the circuitry provided by Foster, the blanking would occur prior to actual application of the signals to the patient."

As described above, Appellant's specification, including at least in paragraph [0028], defines "blanking" as a technique in which the functionality of one or more components of the IMD are temporarily disabled. The parallel resonant circuit of Foster does not blank, e.g., disable the function of, the components of the IMD. Instead, the parallel resonant circuit functions as a filter for signals at the resonant frequency of the parallel resonant circuit. If the act of filtering the signals at the resonant frequency is "blanking" (as the Examiner appears to infer and the Appellant disagrees with), this "blanking" does not start until the actual delivery of the EM burst to the patient at the resonant frequency of the parallel resonant circuit, even if the trigger signal is sent prior to the EM burst. The components of Foster are not disabled and can continue to receive signals at frequencies other than the resonant frequency of the parallel resonant circuit.

Conclusion

In view of the arguments in the Appeal Brief filed November 29, 2010 and the supplemental arguments provided herein, it is submitted that the Examiner has failed to meet the burden of establishing a prima facie case of obviousness under 35 U.S.C. § 103(a) as being unpatentable over Foster et al. (U.S. 6,925,328, hereinafter “Foster”) in view of Weisner et al. (U.S. 7,024,249). Therefore, Appellant respectfully submits that the final rejection of Appellant’s claims should be reversed.

Respectfully submitted,

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